

Service Manual

PIONEER
The Art of Entertainment

KEH-1400/X1M/UC



ORDER NO.
CRT1798

HIGH POWER CASSETTE PLAYER WITH FM/AM TUNER

KEH-1400

X1M/UC

KEH-1450

X1M/ES

KEH-1311

X1M/UC

KEH-1100

X1M/UC

KEH-1150

X1M/ES

HIGH POWER CASSETTE PLAYER WITH FM/MW/LW TUNER

KEH-1300

X1M/EW

KEH-1300SDK

X1M/GR

KEH-1400

X1M/IT

NOTE:

- See the separate manual CX-644(CRT1800) for the cassette mechanism description.
- The cassette mechanism assy employed in this model is one of X-2M series.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
- For the service mentioned in this manual, the special tools GGD1056 and GGD1100 have to be used.
See the sections "Adjustment" on how to use these tools.

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1. SAFETY INFORMATION

● KEH-1400/X1M/UC,1311/X1M/UC,1100/X1M/UC

CAUTION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5). When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

2. SPECIFICATIONS

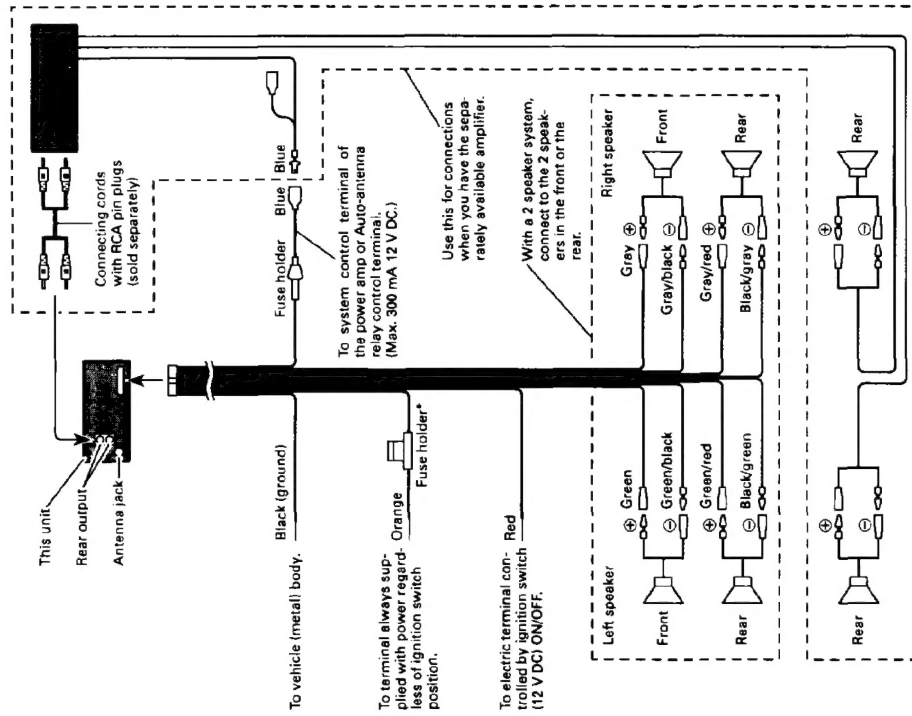
| | |
|--|---|
| General | |
| Power source..... | 14.4 V DC (10.8 — 15.1 V allowable) |
| Grounding system..... | Negative type |
| Max. current consumption..... | |
| KEH-1400, 1450, 1311, 1300, 1300SDK..... | 7.5 A |
| KEH-1100, 1150..... | 6.0 A |
| Dimensions (DIN) (mounting size)..... | |
| (nose)..... | 178 (W) × 50 (H) × 150 (D) mm |
| (D) (mounting size)..... | 17 (W) × 2 (H) × 5-7/8 (D) in. |
| (nose)..... | 188 (W) × 58 (H) × 19 (D) mm |
| (D) (mounting size)..... | 17-3/8 (W) × 2-1/4 (H) × 3/4 (D) in. |
| (nose)..... | 178 (W) × 50 (H) × 155 (D) mm |
| (D) (mounting size)..... | 17 (W) × 2 (H) × 6-1/8 (D) in. |
| (nose)..... | 170 (W) × 48 (H) × 14 (D) mm |
| (D) (mounting size)..... | 6-3/4 (W) × 1-7/8 (H) × 1/2 (D) in. |
| Weight..... | 1.1 kg (2.4 lb.) |
| Amplifier | |
| Continuous power output is 14 W (10 W for KEH-1100) per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD. | |
| Maximum power output..... | |
| KEH-1400, 1450, 1311, 1300, 1300SDK..... | 30 W × 4 |
| KEH-1100, 1150..... | 22 W × 4 |
| Load impedance..... | 4 Ω (4 — 8 Ω allowable) |
| Preout output level/output impedance..... | 500 mV/1 kΩ |
| Tone controls (bass) KEH-1400, 1311, 1100, 1300, 1300SDK..... | ±12 dB (100 Hz) |
| (bass) KEH-1450, 1150..... | +8 dB — -16 dB (100 Hz) |
| Loudness contour..... | +10 dB (100 Hz), +7 dB (10 kHz) (Volume: -30 dB) |
| Tape player | |
| Compact cassette tape (C-30 — C-90) | |
| Tape speed..... | 4.76 cm/sec. (+0.14 cm/sec., 0.05 cm/sec.) (1 7/8 ips.) |
| Fast forward/rewind time..... | Approx. 90 sec. for C-60 |
| Wow & flutter..... | 0.13% (WRMS) |
| Frequency response..... | |
| KEH-1400, 1450, 1300, 1300SDK..... | 40 — 17,000 Hz (±3 dB) |
| KEH-1311, 1100, 1150..... | 40 — 14,000 Hz (±3 dB) |
| Stereo separation..... | |
| Signal-to-noise ratio..... | 50 dB (100 Hz) |
| KEH-1400, 1450, 1300, 1300SDK..... | 52 dB (100 Hz) |
| KEH-1311, 1100, 1150..... | 52 dB (100 Hz) |
| FM tuner (KEH-1400/UC, 1311, 1100) | |
| Frequency range..... | 87.9 — 107.9 MHz |
| Usable sensitivity..... | 11 dBf (1.0 μV/75 Ω, mono, S/N: 30 dB) |
| 50 dB quieting sensitivity..... | 16 dBf (1.7 μV/75 Ω, mono) |
| Signal-to-noise ratio..... | 70 dB (100 Hz, mono) |
| Distortion..... | 0.3% (at 65 dBf, 1 kHz, stereo) |
| Frequency response..... | 30 — 15,000 Hz (±3 dB) |
| Stereo separation..... | 40 dB (at 65 dBf, 1 kHz) |
| Selectivity..... | 50 dB (two undesired signal level: 110 dBf) |

| | |
|--|--|
| FM tuner (KEH-1450, 1150) | |
| Frequency range..... | 87.5 — 108 MHz |
| Usable sensitivity..... | 11 dBf (1.0 μV/75 Ω, mono, S/N: 30 dB) |
| 50 dB quieting sensitivity..... | 16 dBf (1.7 μV/75 Ω, mono) |
| Signal-to-noise ratio..... | 70 dB (100 Hz, mono) |
| Distortion..... | 0.3% (at 65 dBf, 1 kHz, stereo) |
| Frequency response..... | 30 — 15,000 Hz (±3 dB) |
| Stereo separation..... | 40 dB (at 65 dBf, 1 kHz) |
| FM tuner (KEH-1300, 1300SDK, 1400/IT) | |
| Frequency range..... | 87.5 — 108 MHz |
| Usable sensitivity..... | 11 dBf (1.0 μV/75 Ω, mono, S/N: 30 dB) |
| 50 dB quieting sensitivity..... | 16 dBf (1.7 μV/75 Ω, mono) |
| Signal-to-noise ratio..... | 70 dB (100 Hz, mono) |
| Distortion..... | 0.3% (at 65 dBf, 1 kHz, stereo) |
| Frequency response..... | 30 — 15,000 Hz (±3 dB) |
| Stereo separation..... | 40 dB (at 65 dBf, 1 kHz) |
| MW tuner (KEH-1300, 1300SDK, 1400/IT) | |
| Frequency range..... | 531 — 1,602 kHz |
| Usable sensitivity..... | 18 μV (25 dB) (S/N: 20 dB) |
| Selectivity..... | 50 dB (±9 kHz) |
| LW tuner (KEH-1300, 1300SDK, 1400/IT) | |
| Frequency range..... | 153 — 281 kHz |
| Usable sensitivity..... | 30 μV (30 dB) (S/N: 20 dB) |
| Selectivity..... | 50 dB (±9 kHz) |
| AM tuner (KEH-1450, 1150) | |
| Frequency range..... | 531 — 1,602 kHz (9 kHz) |
| Usable sensitivity..... | 530 — 1,710 kHz (10 kHz) |
| Selectivity..... | 18 μV (25 dB) (S/N: 20 dB) |
| AM tuner (KEH-1400/UC, 1311, 1100) | |
| Frequency range..... | 530 — 1,710 kHz |
| Usable sensitivity..... | 18 μV (25 dB) (S/N: 20 dB) |
| Selectivity..... | 50 dB (±10 kHz) |

Note:
Specifications and design are subject to possible modification without notice due to improvements.

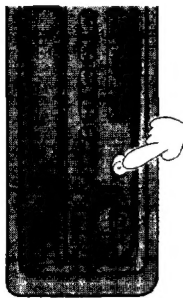
3. OPERATIONS AND CONNECTION

Connection Diagram



Adjusting Volume and Tone

Mode Selection

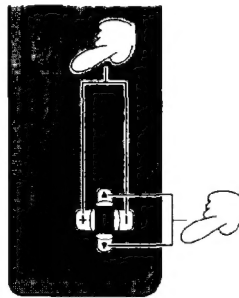


Each press of the [S] button changes the mode as follows.

Fader adjustment (F): → **Tone adjustment (T):** → **Volume adjustment (V):**

- Fader, Balance, Treble and Bass settings stop temporarily at the center position.
- If no operations are performed within 8 seconds, adjustment modes are cancelled. Make adjustments within 8 seconds.

Fader/Balance



Press the [◀] or [▶] button when in the Fader mode, and the Balance mode "B." is indicated in the display. Press the [+] or [-] button when in the Balance mode, and the display changes to "F.", indicating that you have switched to the Fader mode.

Fader



[+]: Shifts the sound toward the front speakers.

[-]: Shifts the sound toward the rear speakers.

(Display shows "FF9" ~ "FR9".)

- Please set to "F:0" when using a 2 speaker system.

Balance



[▶]: Shifts the sound toward the right speakers.

[◀]: Shifts the sound toward the left speakers.

(Display shows "BL9" ~ "BR9".)

Using the Tape Deck

To Change Sides



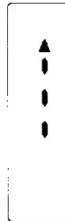
Press the [◀◀] and [▶▶] buttons at the same time.

Fast Forward/Rewind

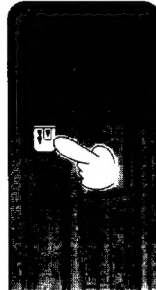
Fast forward



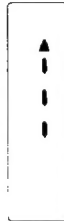
Press the button for the same direction as the tape play indicator.



Rewind



Press the button for the opposite direction as the tape play indicator.



- To release fast forward/rewind, lightly press the [◀◀] or [▶▶] button located on the opposite side of the one you pressed to fast forward or rewind.
- ◀◀ or ▶▶ flashes when the tape is fast forwarding or rewinding.

Bass/Treble



Press the [◀] button when in the Treble mode, and the Bass mode "B:" is indicated in the display. Press the [▶] button when in the Bass mode, and the display changes to "T:" indicating that you have switched to the Treble mode.

Adjusting Bass/Treble



[+]: Boosts
[-]: Attenuates
(When in the Treble mode, the display shows "T:-6" ~ "T: 6". When in the Bass mode, it shows "B:-6" ~ "B: 6".)

Volume



Pressing the [+/-] button increases the volume, while the [-] button decreases it. (Display shows "V: 0" ~ "V: 31".)
• When driving your vehicle, be sure to keep the volume of the unit set low enough to allow you to hear sounds coming from outside.

Loudness

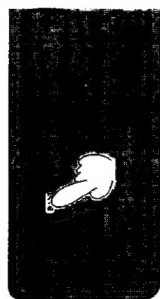
This function enhances both the high and low ranges of sound to give even more power to output at low volume.



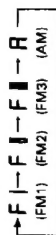
Press the [L] button for 2 seconds to turn Loudness ON/OFF.
"LOUD" appears in the display when the Loudness function is turned ON.
"LOUD" goes out when the Loudness function is turned OFF.

Using the Radio

Selecting a Band



Press the [BAND] button to select a band.



Seek Tuning



[◀]: Automatically selects a lower frequency station.
[▶]: Automatically selects a higher frequency station.
(*SEEK* lights in the display.)

Manual Tuning

1.



Press both [◀] and [▶] buttons at same time.
(*SEEK* goes out from the display.)
• Each time you repeat this operation, *SEEK* either lights or goes out.

2.



[◀]: Use to select lower frequencies.
[▶]: Use to select higher frequencies.
Continue pressing the button to move up or down continuously through frequencies.
• Tuning moves up or down in 0.2 MHz steps for FM, 10 kHz steps for AM.

4. DISASSEMBLY

● Removing the Case (not shown)

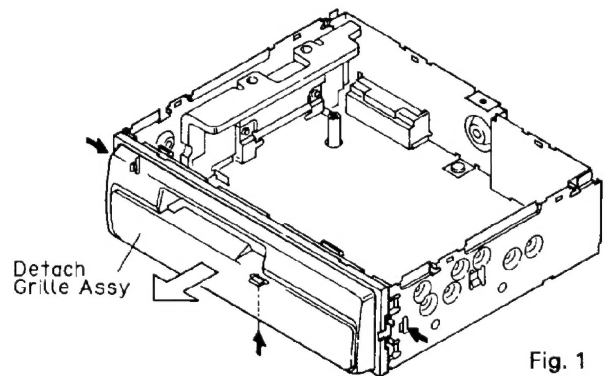
1. Insert and turn a flat screwdriver at locations indicated by arrows to remove the case.

● Removing the Cassette Mechanism Unit (not shown)

1. Remove the four screws.
2. Disconnect the connector.
3. Remove the cassette mechanism unit.

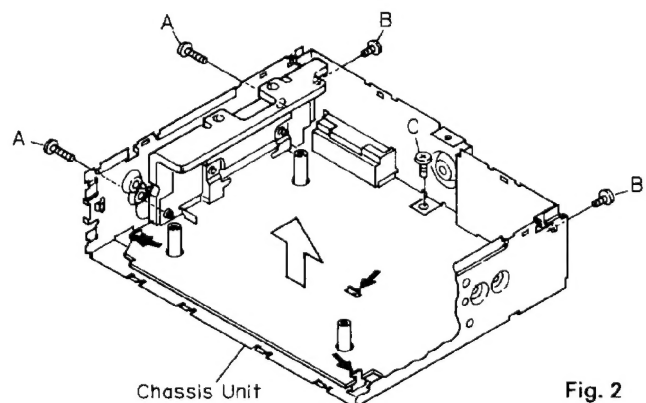
● Removing the Detach Grille Assy (Fig. 1)

1. Disconnect the three stoppers indicated by arrows.
2. Remove the detach grille assy.



● Removing the Chassis Unit (Fig. 2)

1. Remove the two screws A, two screws B and one screw C.
2. Unbend the tabs at three locations indicated by arrows.
3. Remove the chassis unit.



5. ADJUSTMENT

● Connection Diagram

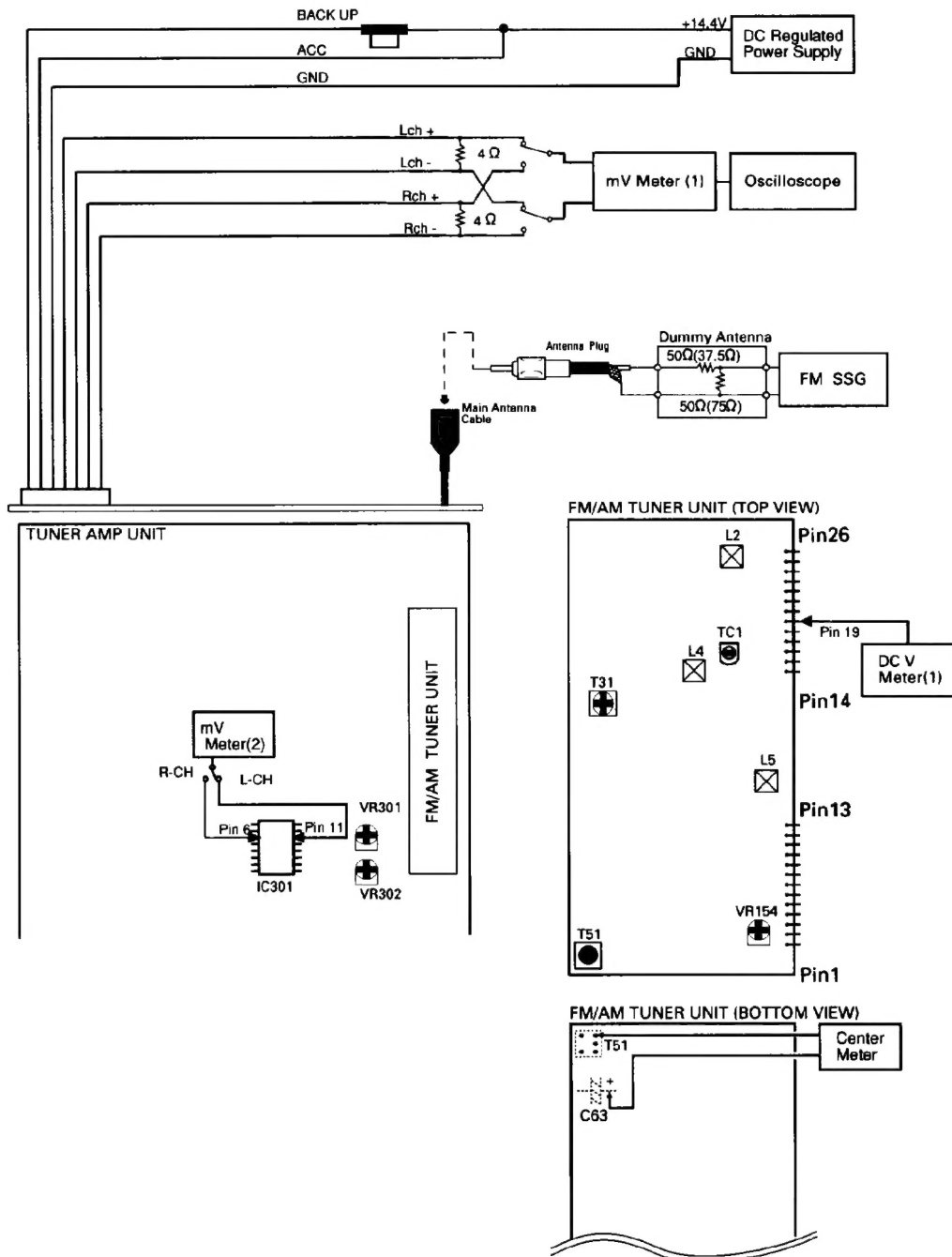


Fig. 3

- For Repair of the Key Board Unit, Use the Extension-Cord Tool GGD1056.
- For Repair of the Cassette Mechanism Unit, Use the Extension-Cord Tool GGD1100.

FM ADJUSTMENT

Modulation M: MONO MOD., 400Hz 30%(22.5kHz Dev.)

S: STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)

NOTE: Before proceeding to further adjustments after switching power ON, let the tuner run for ten minutes to allow the circuits to stabilize.

(KEH-1400/X1M/UC, 1311/X1M/UC, 1100/X1M/UC)

| | No. | FM SSG | | Displayed Frequency(MHz) | Adjustment Point | Adjustment Method (Switch Position) |
|----------|-----|----------------|------------|-----------------------------|---------------------|---|
| | | Frequency(MHz) | Level(dBf) | | | |
| TUN Volt | 1 | ***** | ***** | 107.9 | L5 | DC V Meter(1) : 6V |
| IF | 1 | 98.1 M | 60 | 98.1 | T51 | Center Meter : 0 |
| ANT Coil | 1 | 98.1 M | 5 | 98.1 | L2 | mV Meter(1) : Maximum |
| RF Coil | 1 | 98.1 M | 5 | 98.1 | L4 | mV Meter(1) : Maximum |
| IFT | 1 | 98.1 M | 5 | 98.1 | T31 | mV Meter(1) : Maximum (STEREO MODE) |
| ARC | 1 | 98.1 S | 39 | 98.1 | VR154 | mV Meter(1) : Separation 5dB (STEREO MODE) |

(KEH-1300/X1M/EW, 1300SDK/X1M/GR, 1400/X1M/IT)

| | No. | FM SSG | | Displayed Frequency(MHz) | Adjustment Point | Adjustment Method (Switch Position) |
|----------|-----|----------------|------------|-----------------------------|---------------------|---|
| | | Frequency(MHz) | Level(dBf) | | | |
| TUN Volt | 1 | ***** | ***** | 108.0 | L5 | DC V Meter(1) : 6V |
| IF | 1 | 98.1 M | 60 | 98.1 | T51 | Center Meter : 0 |
| ANT Coil | 1 | 98.1 M | 5 | 98.1 | L2 | mV Meter(1) : Maximum |
| RF Coil | 1 | 98.1 M | 5 | 98.1 | L4 | mV Meter(1) : Maximum |
| Image | 1 | 129.3 M | 60-80 | 107.9 | TC1 | mV Meter(1) : Minimum |
| IFT | 1 | 98.1 M | 5 | 98.1 | T31 | mV Meter(1) : Maximum (STEREO MODE) |
| ARC | 1 | 98.1 S | 39 | 98.1 | VR154 | mV Meter(1) : Separation 5dB (STEREO MODE) |

(KEH-1450/X1M/ES, 1150/X1M/ES)

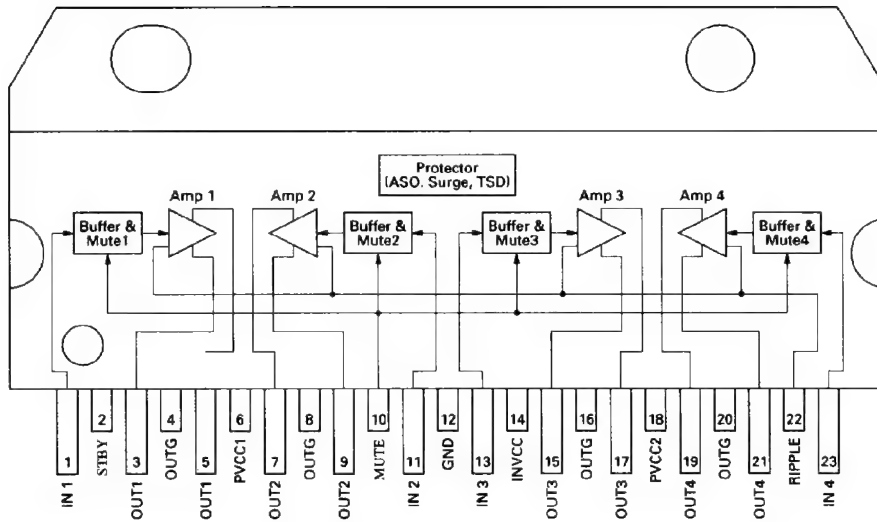
| | No. | FM SSG | | Displayed Frequency(MHz) | Adjustment Point | Adjustment Method (Switch Position) |
|----------|-----|----------------|------------|-----------------------------|---------------------|---|
| | | Frequency(MHz) | Level(dBf) | | | |
| TUN Volt | 1 | ***** | ***** | 108.0 | L5 | DC V Meter(1) : 6V |
| IF | 1 | 98.1 M | 60 | 98.1 | T51 | Center Meter : 0 |
| ANT Coil | 1 | 98.1 M | 5 | 98.1 | L2 | mV Meter(1) : Maximum |
| RF Coil | 1 | 98.1 M | 5 | 98.1 | L4 | mV Meter(1) : Maximum |
| IFT | 1 | 98.1 M | 5 | 98.1 | T31 | mV Meter(1) : Maximum (STEREO MODE) |
| ARC | 1 | 98.1 S | 39 | 98.1 | VR154 | mV Meter(1) : Separation 5dB (STEREO MODE) |

DOLBY NR ADJUSTMENT

(KEH-1400/X1M/UC, 1450/X1M/ES, 1300/X1M/EW, 1400/X1M/IT, 1300SDK/X1M/GR)

| Test Tape | Adjustment Point | Adjustment Method (Switch Position) |
|------------------------------|------------------------|--|
| NCT-150 (400Hz, 200nwb/m) | VR301(Lch), VR302(Rch) | mV Meter(2) : -8.2dBs ± 1dB (DOLBY NR Switch : OFF) |

HA13150A



● Pin Functions (PDC015C)

| Pin No. | Pin Name | I/O | Function and Operation |
|---------|-----------|-----|---|
| 1-4 | NC | | Not used |
| 5-8 | KST4-KST1 | O | Key strobe 4-1 |
| 9-12 | KD4-KD1 | I | Matrix key return 4-1 |
| 13 | NC | | Not used |
| 14 | SCK | I/O | Clock input terminal for serial data input and output |
| 15 | SO | I/O | Key data output |
| 16 | SI | I | Display data input |
| 17 | RES | I | Reset input |
| 18 | TEST | I | Test input |
| 19 | OSC-IN | I | System clock input |
| 20 | OSC-OUT | O | System clock output |
| 21 | VSS | | GND |
| 22,23 | VDD2,VDD1 | | LCD power supply 2,1 |
| 24 | VDD | | Power supply |
| 25-28 | COM1-4 | O | LCD common signal 1-4 |
| 29-42 | SEG1-14 | O | LCD segment signal 1-14 |
| 43-48 | NC | | Not used |

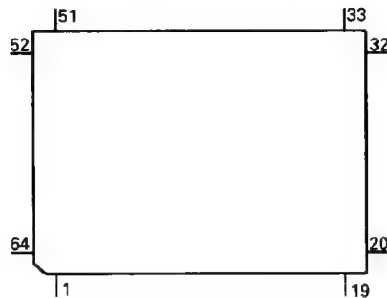
IC's marked by* are MOS type.

Be careful in handling them because they are very liable to be damaged by electrostatic induction.

*PDC015C



*PDR025A



● Pin Functions (PDR025A)

| Pin No. | Pin Name | I/O | Format | Function and Operation |
|---------|----------|-----|--------|--|
| 1 | MCMUT | I | C | Mechanism mute request |
| 2 | TAPLD | I | C | Tape loading input |
| 3 | EO | O | C | Error output |
| 4 | VDD1 | | | Power supply |
| 5 | GND | | | GND |
| 6 | VCOIN | I | | AM/FM VCO IN |
| 7 | ASENS | I | | ACC power sense input |
| 8 | VDD2 | | | Power supply |
| 9 | LCK | O | C | Clock output(Key & display microcomputer) |
| 10 | LDT | O | C | Data output(Key & display microcomputer) |
| 11 | LDI | I | C | Data input(Key & display microcomputer) |
| 12 | FMSD | I | | FM SD input |
| 13 | AMIF | I | | AM IF signal input |
| 14 | SL | I | | Signal level input |
| 15 | ST | I | | Stereo input |
| 16 | SK | I | C | SK signal input |
| 17 | DK | I | C | DK signal input |
| 18 | SWVDD | I | C | Grille power supply control |
| 19 | PEE | O | C | Beep tone output |
| 20 | VST | O | C | Strobe pulse output for electronic volume |
| 21 | VCK | O | C | Clock output for electronic volume |
| 22 | VDI | O | C | Data output for electronic volume |
| 23 | NC | | | Not used |
| 24 | XOUT | O | C | Crystal oscillating element connection pin |
| 25 | XIN | I | | Crystal oscillating element connection pin |
| 26 | GND | | | GND |
| 27-30 | NC | | | Not used |
| 31 | TESTIN | I | C | Test program mode input |
| 32 | DSNS | I | C | Grille detach sense input |
| 33,34 | GND | | | GND |
| 35-38 | NC | | | Not used |
| 39 | MUTE | O | C | System mute output |
| 40 | DKOUT | O | C | DK interrupt output |
| 41 | ILLPW | O | C | Not used |
| 42 | AUTANT | O | C | Not used |
| 43 | SYSPW | O | C | System power supply control output |
| 44-46 | NC | | | Not used |
| 47 | NR | O | C | NR output |
| 48 | MTL | O | C | METAL output |
| 49 | MS | O | C | Cassette mechanism MS sense output |
| 50 | MECPW | O | C | Cassette mechanism power |
| 51 | AMPW | O | C | AM power control output |
| 52 | LOCL | O | C | LOC "L" set up |
| 53 | LOCH | O | C | LOC "H" set up |
| 54 | FMPW | O | C | FM power control output |
| 55 | SEEK | O | C | Seek output |
| 56 | MONO | O | C | Forced mono output |
| 57 | LW | O | C | LW output |
| 58 | GND | | | GND |
| 59-62 | DM3-DM0 | I | | Destination • function input |
| 63 | NOR/REV | I | C | Tape running input |
| 64 | DM4 | I | | Not used |

| Format | Meaning |
|--------|---------|
| C | C MOS |

7. LCD

● CAW1377

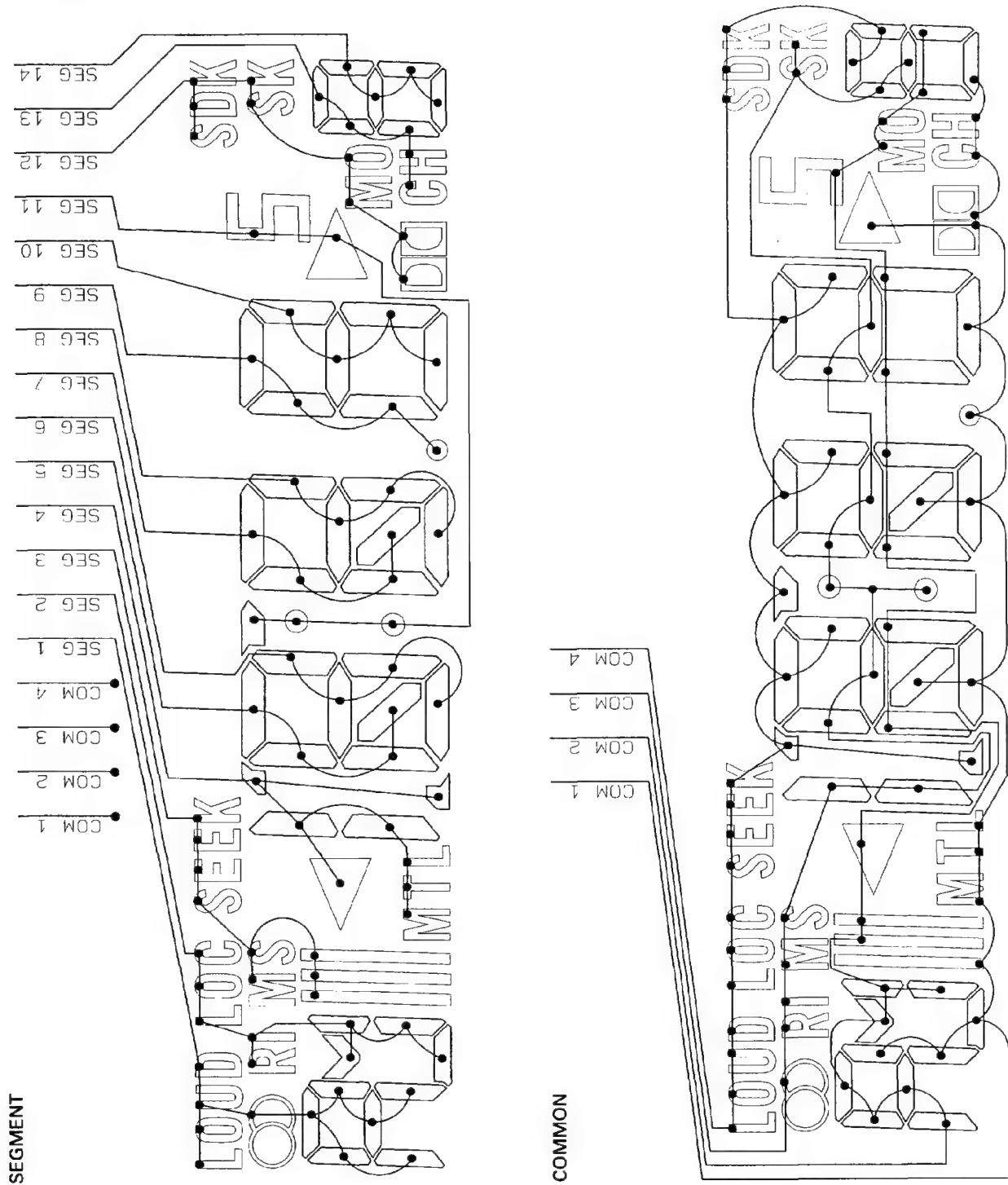


Fig. 4

8. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/OS○○○○J,RS1/OS○○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

| ====Circuit Symbol & No. Part Name===== | Part No. | ====Circuit Symbol & No. Part Name===== | Part No. |
|---|----------------------------|---|--------------|
| Unit Number : | | R 303 304 512 628 | RD1/4PU332J |
| Unit Name : Tuner Amp Unit(1400/X1M/UC) | | R 305 306 309 608 609 | RD1/4PU104J |
| MISCELLANEOUS | | R 307 501 618 620 622 959 981 | RD1/4PU223J |
| IC 251 | LA3161P | R 308 | RD1/4PU183J |
| IC 301 | HA12134AF | R 401 402 | RD1/4PU822J |
| IC 401 | AN6263N | R 403 | RD1/4PU100J |
| IC 451 | SN761025DL | R 404 | RD1/4PU684J |
| IC 551 | HA13150A | R 452 | RS1/10S272J |
| | | R 453 | RD1/4PU151J |
| | | R 454 | RS1/10S151J |
| IC 601 | PDR025A | R 455 456 570 952 | RS1/10S101J |
| Q 301 302 | DTC114TS | R 457 458 502 567 571 617 621 623 | RD1/4PU103J |
| Q 401 605 961 963 | DTC114ES | R 459 460 461 503 507 616 631 951 958 964 | RD1/4PU472J |
| Q 501 506 602 603 606 | 2SC1740S | R 465 466 | RD1/4PU223J |
| Q 502 | 2SK330 | R 467 468 | RD1/4PU151J |
| Q 504 | 2SC2498 | R 504 615 | RD1/4PU152J |
| Q 551 552 958 | DTC124ES | R 505 506 516 518 956 962 965 970 | RD1/4PU102J |
| Q 601 851 852 966 | DTC143TS | R 508 522 523 575 576 | RD1/4PU222J |
| Q 604 | DTA114ES | R 509 573 574 | RD1/4PU222J |
| Q 607 | DTC124TS | R 511 | RD1/4PU101J |
| Q 853 | DTA124ES | R 513 853 854 | RD1/4PU821J |
| Q 951 | 2SD1859 | R 514 960 973 | RD1/4PU331J |
| Q 956 962 | 2SA933S | R 515 | RD1/4PU680J |
| Q 957 | 2SB1243 | R 527 528 | RD1/4PU162J |
| Q 959 | 2SD2395 | R 529 | RD1/4PU330J |
| Q 960 | 2SA1674 | R 530 | RD1/4PU393J |
| Q 965 | 2SB1242 | R 531 982 | RS1/10S103J |
| Q 967 | 2SC1740S | R 551 552 553 554 555 556 557 558 | RD1/4PU2R2J |
| D 251 502 503 601 602 604 608 609 610 611 | 1SS270 | R 568 | RS1/10S153J |
| D 501 | MTZJ3R0B | R 569 | RS1/10S221J |
| D 551 | CWW1352 | R 577 578 579 580 606 | RS1/10S222J |
| D 603 | HZS7LB1 | R 605 | RS1/10S473J |
| D 605 615 | HZS7LA1 | R 607 610 630 957 | RD1/4PU473J |
| D 606 | HZS7LC3 | R 611 | RD1/4PU473J |
| D 612 613 614 | 1SS270 | R 612 613 614 625 | RD1/4PU222J |
| D 621 962 | 1SS270 | R 619 980 | RD1/4PU392J |
| D 951 952 954 955 958 | 1SR139-200 | R 624 | RS1/8S104J |
| D 953 | HZS6LB2 | R 626 | RD1/4PU104J |
| D 956 | HZS9LB3 | R 851 852 | RS1/10S223J |
| D 961 | HZS9LA2 | R 961 | RD1/4PU511J |
| L 501 | Ferri-Inductor | R 963 | RD1/4PU471J |
| L 601 602 | Ferri-Inductor | R 969 | RD1/4PU472J |
| L 951 | Choke Coil 600H | R 971 972 | RD1/4PU1R5J |
| X 601 | Crystal Resonator 4.500MHz | | |
| VR 301 302 | Semi-fixed 33kΩ(B) | | |
| FM/AM Tuner Unit | CWE1417 | CAPACITORS | |
| RESISTORS | | C 251 252 507 | CKSQYB681K50 |
| R 251 252 | RD1/4PU273J | C 253 254 | CEA2R2M50LS2 |
| R 253 254 | RS1/10S470J | C 255 256 263 403 | CEA101M10LS |
| R 255 256 983 | RS1/10S472J | C 257 258 475 476 | CKSQYB333K25 |
| R 257 258 | RS1/10S104J | C 301 302 304 451 452 453 454 463 464 | CEA010M50LL |
| R 301 302 451 | RD1/4PU272J | C 305 306 | CKSQYF224Z25 |
| | | C 307 555 556 557 558 559 560 561 562 604 | CKSQYB104K16 |
| | | C 308 517 518 606 | CKSQYB104K16 |
| | | C 309 | CEA4R7M35LS2 |
| | | C 310 551 552 553 554 603 | CEA4R7M35LL |

KEH-1400,1450,1311,1100,1150,1300,1300SDK

| ====Circuit Symbol & No. Part Name===== | Part No. | ====Circuit Symbol & No. Part Name===== | Part No. |
|--|--------------|---|--------------|
| C 311 312 513 515 520 521 | CKSQYB223K25 | D 231 | SVC253 |
| C 401 | CKSQYB562K50 | L 2 4 | CTC1108 |
| C 402 | CCSQCH330J50 | L 3 | LCTB2R2K2125 |
| C 404 | CKSYB823K50 | L 5 | CTC1107 |
| C 459 460 465 466 483 851 852 | CEA100M16LL | L 51 | LAU150K |
| C 461 462 | CKSQYB822K50 | L 201 | LAU4R7K |
| C 467 468 | CKSQYB152K50 | L 202 | LAU330K |
| C 469 470 | CKSQYB183K25 | L 203 | CTF1287 |
| C 471 472 501 510 589 590 591 592 609 953 | CKSQYB102K50 | L 208 | LAU121K |
| C 473 474 484 | CEA2R2M50LL | L 231 | LAU3R3J3225 |
| C 477 478 508 509 512 963 964 | CCSQCH101J50 | T 31 | CTE1116 |
| C 485 | CKSQYB332K50 | T 51 | CTC1136 |
| C 487 | CKSYB104K16 | CF 51 52 53 | CTF1290 |
| C 489 504 506 511 958 | CKSQYB103K25 | CF 232 | CTF1348 |
| C 502 525 | CKSYB473K16 | X 151 | CSS1365 |
| C 503 | CCH1005 | X 231 | CSS1111 |
| C 516 526 607 | CKSQYB473K16 | VR 154 | CCP1211 |
| C 541 | CCSQCH100D50 | | |
| C 570 | CEAS100M16 | | |
| C 571 | CEAS330M10 | | |
| C 572 573 | CKSQYB104K25 | | |
| C 601 | CCSQCH110J50 | | |
| C 602 | CCSQCH100D50 | | |
| C 611 | CKSYB103K25 | | |
| C 951 | CCH1018 | | |
| C 952 | CEAS331M16 | | |
| C 957 959 | CCH1181 | | |
| C 960 | CEA101M16LL | | |
| Unit Number : CWM4585 | | | |
| Unit Name : Key Board Unit(KEH-1400/X1M/UC, 1400/X1M/IT, 1450/X1M/ES,1150/X1M/ES) | | | |
| MISCELLANEOUS | | | |
| IC 901 | PDC015C | | |
| D 901 | MA151WK | | |
| D 902 | MA151WA | | |
| D 903 | MA110 | | |
| L 901 | LAU150K | | |
| S 901 902 903 904 905 906 907 908 909 910 | CSG1055 | | |
| S 911 912 913 914 915 916 | CSG1055 | | |
| IL 901 902 903 | CEL1470 | | |
| LCD 901 | CAW1377 | | |
| RESISTORS | | | |
| R 901 902 | RS1/10S222J | | |
| R 903 904 905 906 907 908 909 910 911 912 | RS1/10S471J | | |
| R 913 | RS1/10S682J | | |
| R 917 | RS1/10S472J | | |
| R 946 | RS1/10S473J | | |
| CAPACITORS | | | |
| C 901 | CEA100M16LL | | |
| C 902 903 | CKSQYB103K25 | | |
| C 904 | CCSQCH181J50 | | |
| C 905 | CKSQYB104K16 | | |
| Unit Number : CWE1417 | | | |
| Unit Name : FM/AM Tuner Unit(KEH-1400/X1M/UC,1450/X1M/ES, 1311/X1M/UC,1100/X1M/UC,1150/X1M/ES) | | | |
| MISCELLANEOUS | | | |
| IC 1 | PA4023A | | |
| IC 2 | PA4024A | | |
| Q 1 31 202 | 2SC2412KLN | | |
| Q 2 203 | DTC124EU | | |
| Q 3 | 3SK263 | | |
| Q 201 | 2SK932 | | |
| D 1 2 | RD39JS | | |
| D 4 | 1SV251 | | |
| D 5 7 8 | KV1410 | | |
| D 6 201 202 | MA157 | | |

KEH-1400,1450,1311,1100,1150,1300,1300SDK

| ====Circuit Symbol & No. Part Name===== | Part No. |
|---|---------------|
| R 240 | RS1/16S332J |
| R 241 | RS1/16S202J |
| R 243 | RS1/16S183J |
| R 244 | RS1/16S472J |
| CAPACITORS | |
| C 1 | CCSQCH060D50 |
| C 2 | CCSRCH020C50 |
| C 4 | CCSRCH820J50 |
| C 6 | CCSRCH820J50 |
| C 8 18 25 31 52 59 62 105 107 213 | CKSRYB103K25 |
| C 9 34 56 152 160 241 | CKSQYB104K16 |
| C 10 | CCSRCH0R5C50 |
| C 11 | CEA010M50LL |
| C 12 13 17 19 20 | CKSRYB222K50 |
| C 14 | CCSRCH220J50 |
| C 15 | CCSRCH060D50 |
| C 16 | CCSRCH080D50 |
| C 21 | CEA100M16LL |
| C 22 | CCSRTH090D50 |
| C 23 | CCSRTH120J50 |
| C 24 | CCSRCH471J50 |
| C 25 | CCSRCH101J50 |
| C 32 | CKSQYB472K50 |
| C 33 | CCSRCH050C50 |
| C 36 | CCSRRH201J50 |
| C 51 | CKSRYB223K25 |
| C 54 | CCSRCH470J50 |
| C 55 | CKSQYB223K25 |
| C 57 | CKSRYB472K50 |
| C 58 234 | CEA330M10LL |
| C 60 | CKSRYB102K50 |
| C 61 | CKSRYB102K50 |
| C 63 | CEA22M50LL |
| C 101 | CEA100M10NPLL |
| C 102 | CKSRYB182K50 |
| C 103 | CKSRYB682K25 |
| C 104 | CEA2R2M50LL |
| C 106 | CCSRCH151J50 |
| C 151 | CKSRYB472K50 |
| C 153 157 | CEA3R3M50LL |
| C 154 | CKSQYB104K16 |
| C 158 | CKSYB474K16 |
| C 159 | CEA220M6R3LL |
| C 161 209 | CKSQYB104K16 |
| C 162 | CEA3R3M50LL |
| C 163 | CKSRYB102K50 |
| C 170 202 | CCSRCH100D50 |
| C 201 250 | CCSRCH471J50 |
| C 203 235 | CKSRYB332K50 |
| C 204 205 236 244 | CKSQYB473K16 |
| C 206 233 | CKSQYB104K16 |
| C 207 | CCSRCH560J50 |
| C 211 | CCSRCH101J50 |
| C 212 | CEA470M6R3LL |
| C 216 | CCSRCH101J50 |
| C 217 | CEA1R5M50LL |
| C 219 | CCSRCH471J50 |
| C 220 230 | CKSRYB103K25 |
| C 231 | CCSRCH330J50 |
| C 232 | CCSRCH150J50 |
| C 237 | CCSRCH180J50 |
| C 239 | CKSRYB472K50 |
| C 240 242 | CEA47M50LL |
| C 243 | CEA33M50LL |
| C 245 | CKSRYB183K25 |
| C 246 | CKSQYB473K16 |

| ====Circuit Symbol & No. Part Name===== | Part No. |
|--|-------------------------|
| Unit Number : | |
| Unit Name : Cassette P.C.Board(KEH-1400/X1M/UC,1450/X1M/ES,1300/X1M/EV,1300SDK/X1M/GR,1400/X1M/IT,1311/X1M/UC) | |
| D 1 | 1SR-35-100A |
| S 1 | Switch(Load) ESN1016 |
| S 2 | Switch(Mute) ESN1017 |
| S 3 | Switch(FWD/REV) ESH1006 |
| Miscellaneous Parts List | |
| M 1 | Motor Unit EXA1444 |
| HD 1 | Head Assy EXA1443 |
| SO 1 | Solenoid EXP1012 |
| Unit Number : | |
| Unit Name : Cassette P.C.Board(KEH-1100/X1M/UC,1150/X1M/ES) | |
| S 1 | Switch(Load) ESN1016 |
| S 2 | Switch(Mute) ESN1017 |
| S 3 | Switch(FWD/REV) ESH1006 |
| Miscellaneous Parts List | |
| M 1 | Motor Unit EXA1444 |
| HD 1 | Head Assy EXA1443 |

- The KEH-1300/X1M/EW, KEH-1300SDK/X1M/GR, KEH-1400/X1M/IT, KEH-1450/X1M/ES, KEH-1311/X1M/UC, KEH-1100/X1M/UC and KEH-1150/X1M/ES Tuner Amp Unit Parts Lists enumerate the parts which differ from those enumerated in the KEH-1400/X1M/UC Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly. The KEH-1400/X1M/UC Tuner Amp Unit Parts List is given on page 14.

Tuner Amp Unit

| Circuit Symbol & No. | 1400/X1M/UC Part No. | 1450/X1M/ES Part No. | 1311/X1M/UC Part No. | 1100/X1M/UC Part No. | 1150/X1M/ES Part No. |
|----------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| IC301 | HA12134AF | HA12134AF | ..... | ..... | ..... |
| IC401 | AN6263N | AN6263N | AN6263N | ..... | ..... |
| IC551 | HA13150A | HA13150A | HA13150A | PA3029B | PA3029B |
| VR301,302 | CCP1209 | CCP1209 | ..... | ..... | ..... |
| Q301,302 | DTC114TS | DTC114TS | ..... | ..... | ..... |
| Q401 | DTC114ES | DTC114ES | DTC114ES | ..... | ..... |
| R301,302 | RD1/4PU272J | RD1/4PU272J | ..... | ..... | ..... |
| R303,304 | RD1/4PU332J | RD1/4PU332J | ..... | ..... | ..... |
| R305,306,309 | RD1/4PU104J | RD1/4PU104J | ..... | ..... | ..... |
| R307 | RD1/4PU223J | RD1/4PU223J | ..... | ..... | ..... |
| R308 | RD1/4PU183J | RD1/4PU183J | ..... | ..... | ..... |
| R401,402 | RD1/4PU822J | RD1/4PU822J | RD1/4PU822J | ..... | ..... |
| R403 | RD1/4PU100J | RD1/4PU100J | RD1/4PU100J | ..... | ..... |
| R404 | RD1/4PU684J | RD1/4PU684J | RD1/4PU684J | ..... | ..... |
| R465,466 | RD1/4PU223J | RD1/4PU223J | RD1/4PU333J | RD1/4PU333J | RD1/4PU333J |
| R601 | ..... | ..... | RD1/4PU472J | ..... | ..... |
| R602 | ..... | ..... | ..... | RD1/4PU472J | RD1/4PU472J |
| R604 | ..... | RD1/4PU472J | ..... | ..... | RD1/4PU472J |
| R631 | RD1/4PU472J | ..... | RD1/4PU472J | RD1/4PU472J | ..... |
| C301,302,304 | CEA010M50LL | CEA010M50LL | ..... | ..... | ..... |
| C305,306 | CKSQYF224Z25 | CKSQYF224Z25 | ..... | ..... | ..... |
| C307,308 | CKSQYB104K16 | CKSQYB104K16 | ..... | ..... | ..... |
| C309 | CEA4R7M16LS2 | CEA4R7M16LS2 | ..... | ..... | ..... |
| C310 | CEA4R7M35LL | CEA4R7M35LL | ..... | ..... | ..... |
| C311,312 | CKSQYB223K25 | CKSQYB223K25 | ..... | ..... | ..... |
| C401 | CKSQYB562K50 | CKSQYB562K50 | CKSQYB562K50 | ..... | ..... |
| C402 | CCSQCH330J50 | CCSQCH330J50 | CCSQCH330J50 | ..... | ..... |
| C403 | CEA101M10LS | CEA101M10LS | CEA101M10LS | ..... | ..... |
| C404 | CKSQYB823K25 | CKSQYB823K25 | CKSQYB823K25 | ..... | ..... |

Tuner Amp Unit(1/2)

| Circuit Symbol & No. | 1400/X1M/UC Part No. | 1300/X1M/EW 1400/X1M/IT Part No. | 1300SDK/X1M/GR Part No. |
|----------------------|-------------------------|--|----------------------------|
| IC601 | PDR025A | PDR026A | PDR026A |
| IC701 | ..... | ..... | LA2220 |
| IC702 | ..... | ..... | NJM4558M |
| X701 | ..... | ..... | CSS1022 |
| Q701 | ..... | ..... | 2SC1740S |
| Q702 | ..... | ..... | DTC124TS |
| EF951 | ..... | CCG1003 | CCG1003 |
| FM/AM Tuner Unit | CWE1417 | CWE1416 | CWE1416 |
| R527,528 | RD1/4PU162J | RD1/4PU272J | RD1/4PU272J |
| R604,712 | ..... | ..... | RD1/4PU472J |
| R631 | RD1/4PU472J | RD1/4PU472J | ..... |
| R701 | ..... | ..... | RN1/10SE182D |
| R702 | ..... | ..... | RN1/10SE473D |
| R703,714 | ..... | ..... | RD1/4PU473J |
| R704 | ..... | ..... | RD1/4PU222J |
| R705,715 | ..... | ..... | RD1/4PU103J |
| R706 | ..... | ..... | RD1/4PU123J |
| R707 | ..... | ..... | RD1/4PU684J |
| R708,719 | ..... | ..... | RD1/4PU153J |

Tuner Amp Unit(2/2)

| | 1400/X1M/UC | 1300/X1M/EW 1400/X1M/IT | 1300SDK/X1M/GR |
|----------------------|--------------|----------------------------|----------------|
| Circuit Symbol & No. | Part No. | Part No. | Part No. |
| R709 | | | RS1/10S682J |
| R710 | | | RD1/4PU152J |
| R711 | | | RS1/10S564J |
| R713 | | | RS1/10S823J |
| R717,718 | | | RD1/4PU104J |
| R720 | | | RN1/4PC1600D |
| C525 | CKSYB473K16 | CKSYB223K25 | CKSYB223K25 |
| C526 | CKSQYB473K16 | CKSQYB223K25 | CKSQYB223K25 |
| C701 | | | CEAS470M10 |
| C702 | | | CEA100M16LL |
| C703,704 | | | CQMA102J50 |
| C705 | | | CKSQYB222K50 |
| C706,712,715,716 | | | CKSQYB473K16 |
| C707 | | | CKSYB223K25 |
| C708 | | | CEA470M10LL |
| C709 | | | CEAR33M50LL |
| C710 | | | CQMA683J50 |
| C711 | | | CEA010M50LL |
| C713,714 | | | CFTLA473J50 |
| C717,718 | | | CKSQYB102K50 |

- The KEH-1300/X1M/EW, KEH-1300SDK/X1M/GR, KEH-1311/X1M/UC and KEH-1100/X1M/UC Key Board Unit Parts Lists enumerate the parts which differ from those enumerated in the KEH-1400/X1M/UC, KEH-1400/X1M/IT, KEH-1450/X1M/ES and KEH-1150/X1M/ES Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly. The KEH-1400/X1M/UC, KEH-1400/X1M/IT, KEH-1450/X1M/ES and KEH-1150/X1M/ES Key Board Unit Parts List is given on page 14.

Key Board Unit

| | 1400/X1M/UC(CWM4585) 1400/X1M/IT(CWM4711) 1450/X1M/ES(CWM4594) 1150/X1M/ES(CWM4597) | 1300/X1M/EW(CWM4579) 1300SDK/X1M/GR(CWM4582) 1311/X1M/UC(CWM4588) 1100/X1M/UC(CWM4591) |
|----------------------|--|---|
| Circuit Symbol & No. | Part No. | Part No. |
| IL 901,902,903 | CEL1470 | CEL1469 |

- The KEH-1300/X1M/EW, KEH-1300SDK/X1M/GR and KEH-1400/X1M/IT FM/AM Tuner Unit Parts Lists enumerate the parts which differ from those enumerated in the KEH-1400/X1M/UC, KEH-1450/X1M/ES, KEH-1311/X1M/UC, KEH-1100/X1M/UC and KEH-1150/X1M/ES Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly. The KEH-1400/X1M/UC, KEH-1450/X1M/ES, KEH-1311/X1M/UC, KEH-1100/X1M/UC and KEH-1150/X1M/ES FM/AM Tuner Unit Parts List is given on page 14.

FM/AM Tuner Unit

| | 1400/X1M/UC, 1100/X1M/UC, 1450/X1M/ES, 1150/X1M/ES, 1311/X1M/UC | 1300/X1MEW, 1300SDK/X1M/GR 1400/X1M/IT |
|----------------------|--|---|
| | CWE1417 | CWE1416 |
| Circuit Symbol & No. | Part No. | Part No. |
| AR 1 | ..... | DSP-201M |
| CF 51,52,53 | CTF1290 | CTF1292 |
| D 1,2 | RD39JS | ..... |
| L 6 | ..... | LCTBR15K608 |
| Q 154 | ..... | DTC124EU |
| Q 165 | ..... | 2SC2412KLN |
| TC 1 | ..... | CCL1042 |
| R 1 | RS1/16S225J | RS1/16S0R0J |
| R 2 | RS1/16S225J | ..... |
| R 62 | RS1/16S273J | RS1/16S393J |
| R 154 | ..... | RS1/16S104J |
| R 163 | RS1/16S223J | RS1/16S222J |
| R 243 | RS1/16S183J | RS1/16S123J |
| R 244 | RS1/16S472J | RS1/16S103J |
| C 15 | CCSRCH060D50 | ..... |
| C 26 | CCSRCH101J50 | ..... |
| C 60 | CKSRYB102K50 | ..... |
| C 63 | CEAR22M50LL | CEAR15M50LL |
| C 245 | CKSRYB183K25 | CKSRYB123K25 |

9. BLOCK DIAGRAM

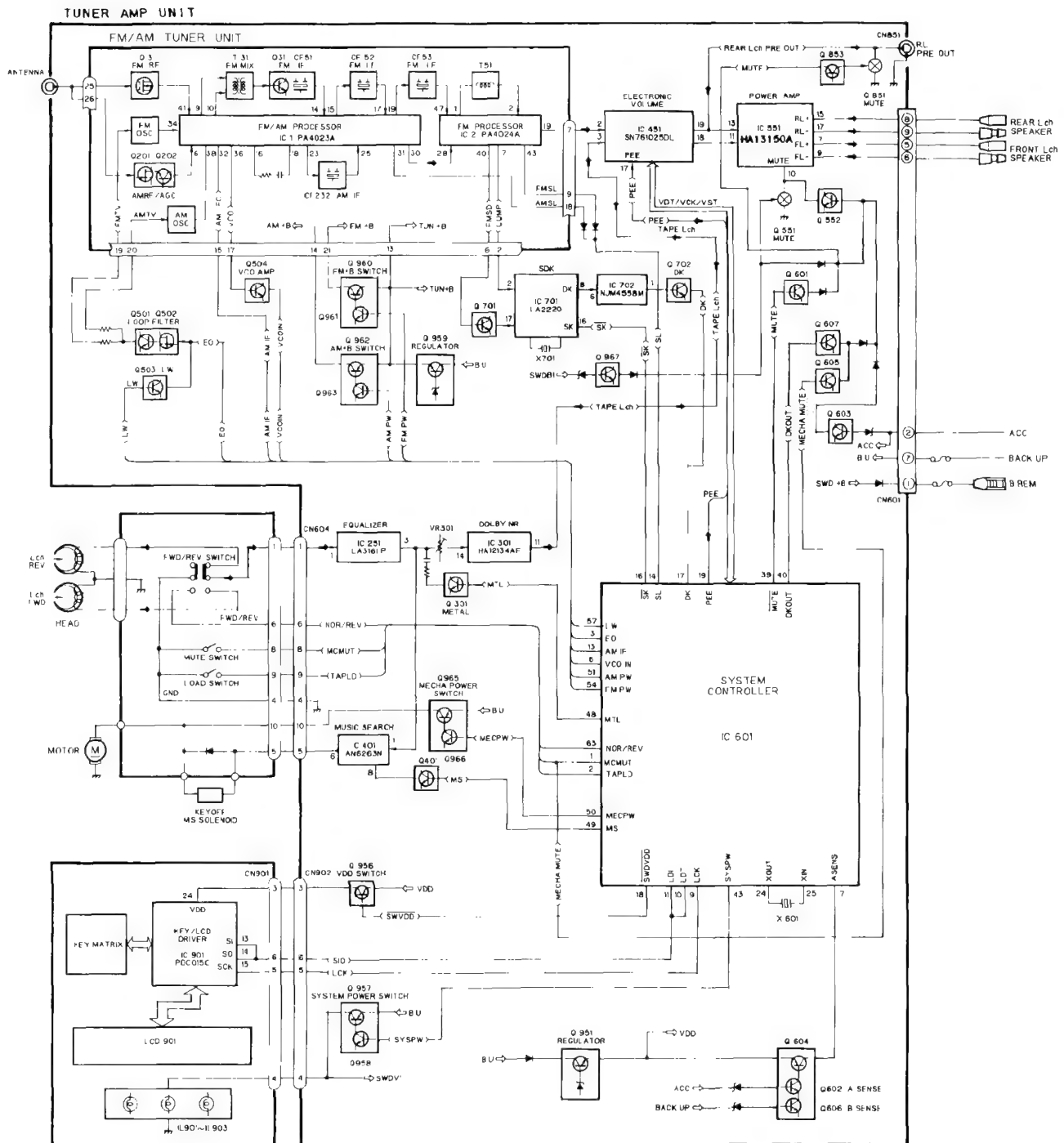


Fig. 5

10. CONNECTION DIAGRAM

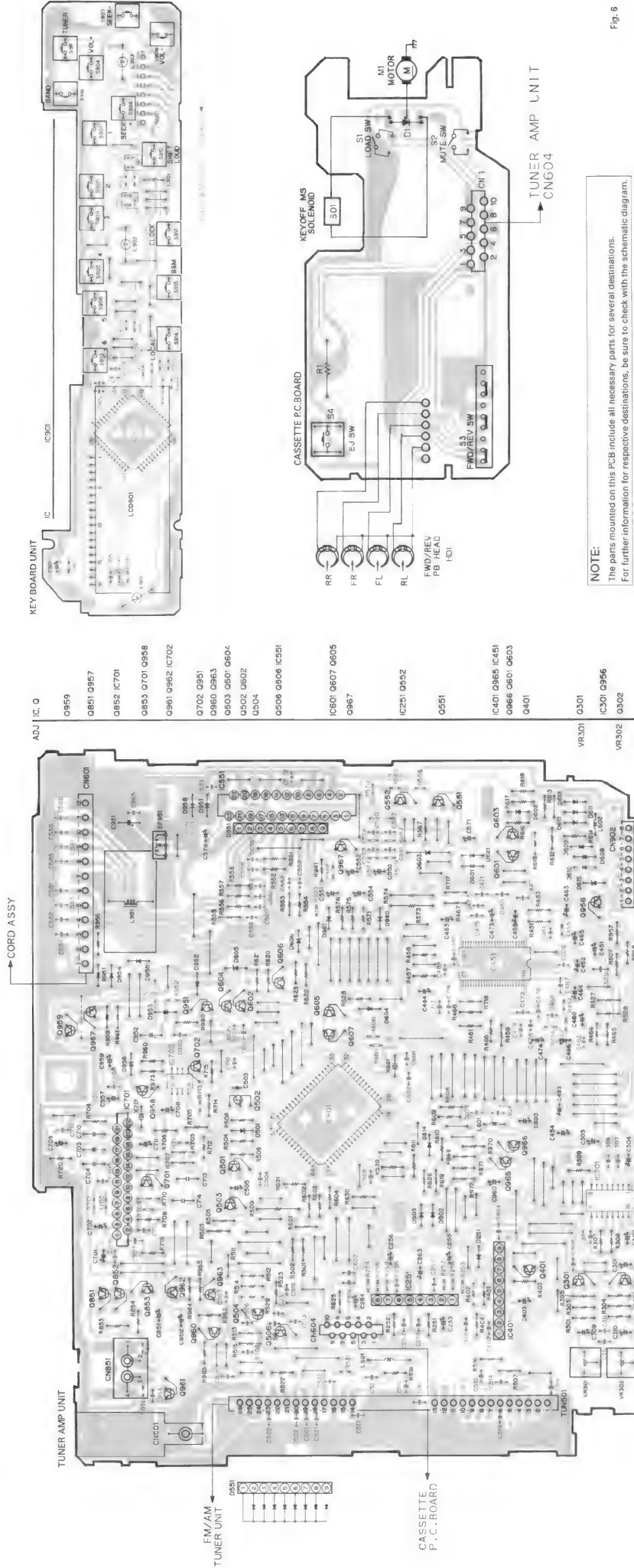


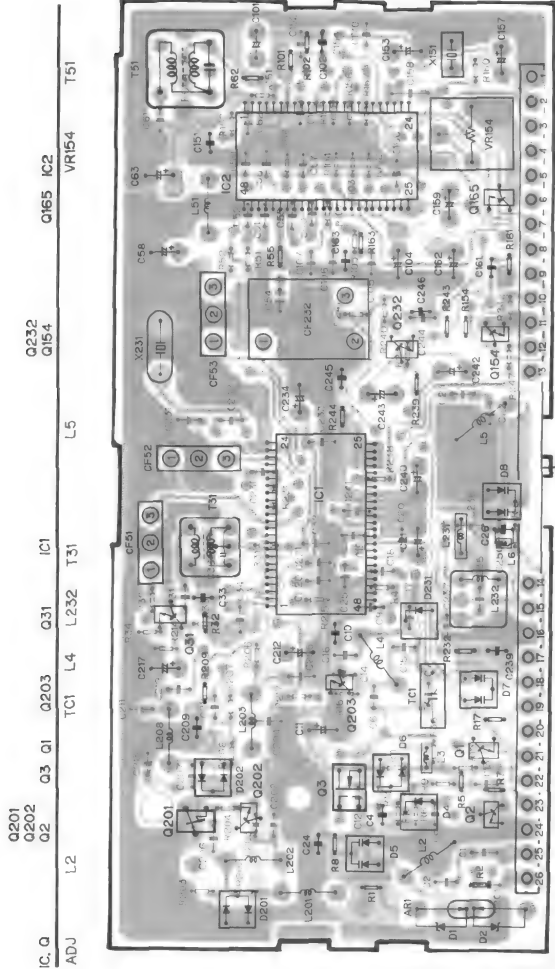
Fig. 6



12. CIRCUIT DIAGRAM AND PATTERN

12.1 FM/AM TUNER UNIT

● Connection diagram



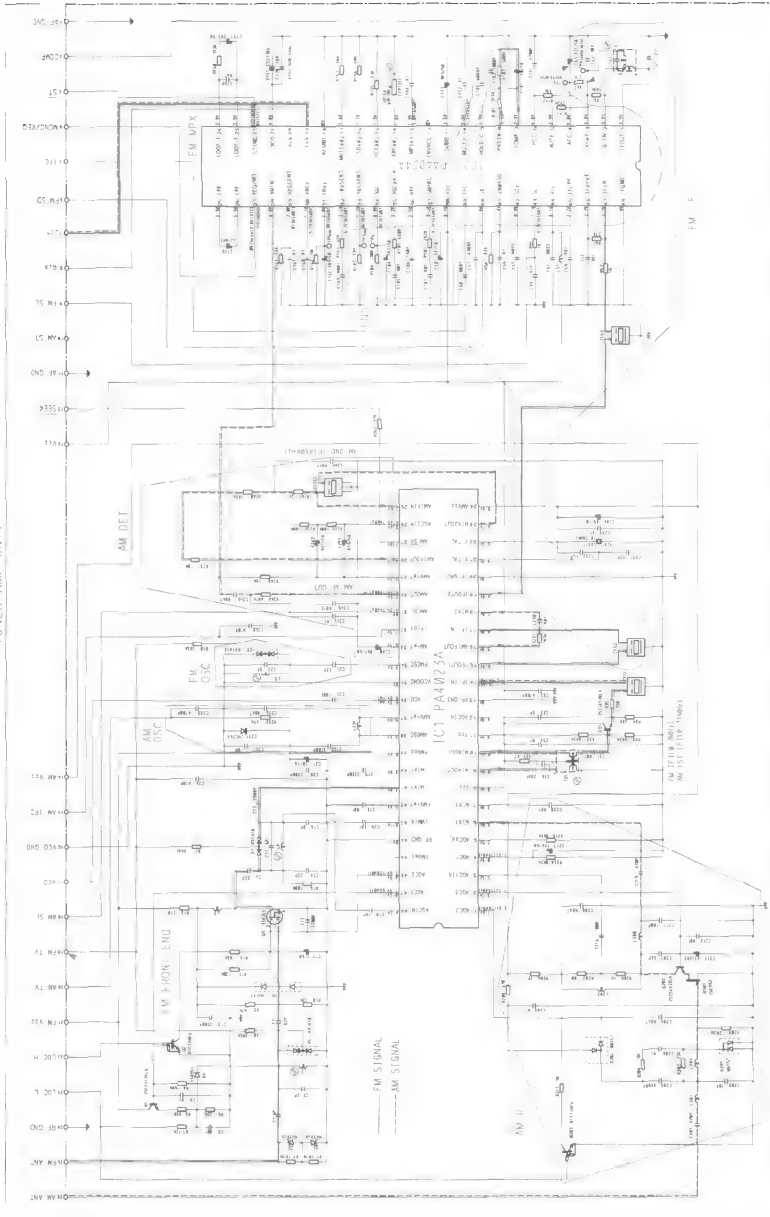
NOTE:

The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.

● Circuit diagram

(KEH-1400/X1M/UC, 1450/X1M/ES, 1311/X1M/UC, 1100/X1M/UC, 1150/X1M/ES)

TUNER AMP UNIT



(KEH-1300/X1M/EW, 1300SDK/X1M/GR, 1400/X1M/IT)

TUNER AMP UNIT

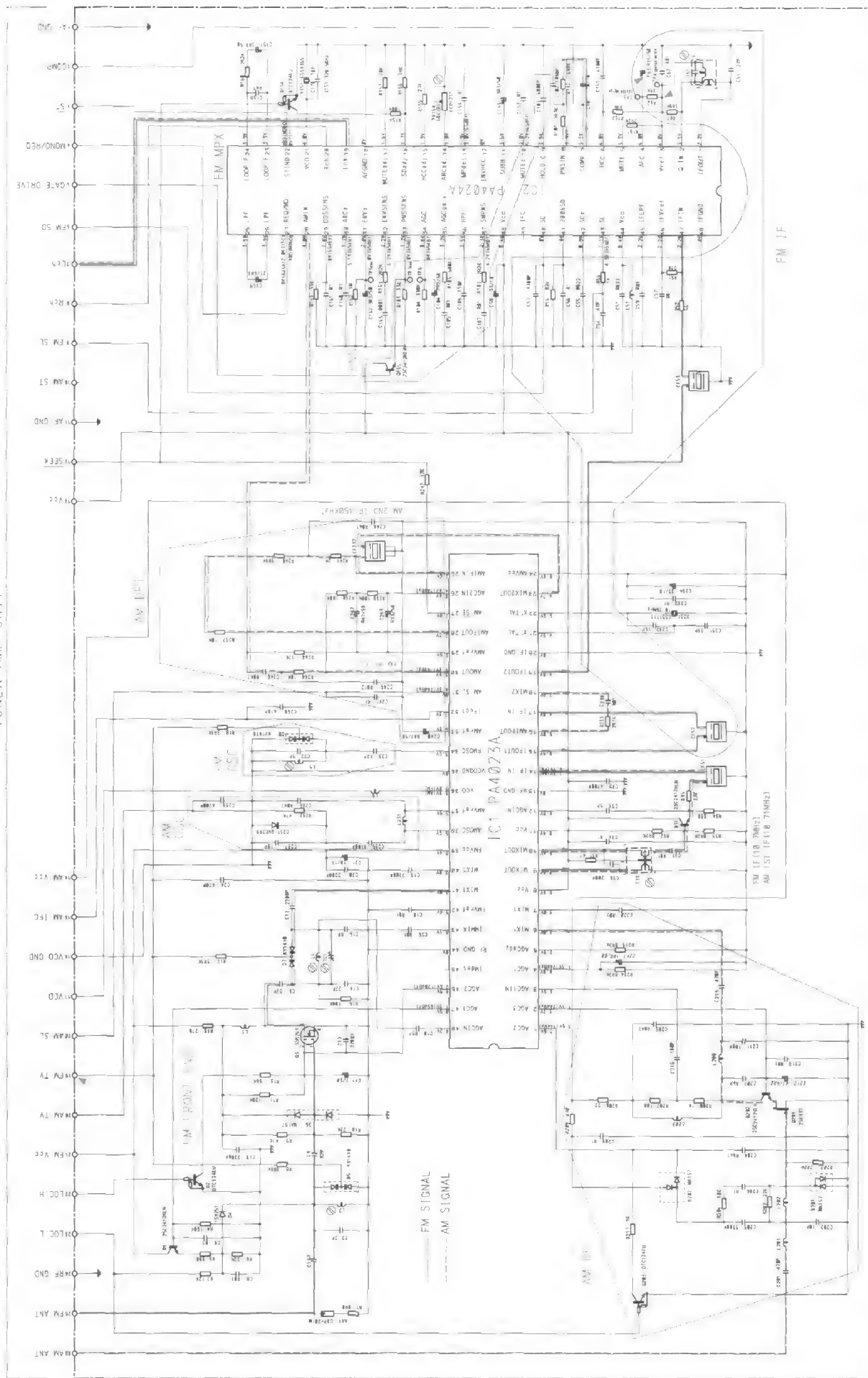


Fig. 10

13. EXPLODED VIEW AND PARTS LIST

13.1 CHASSIS

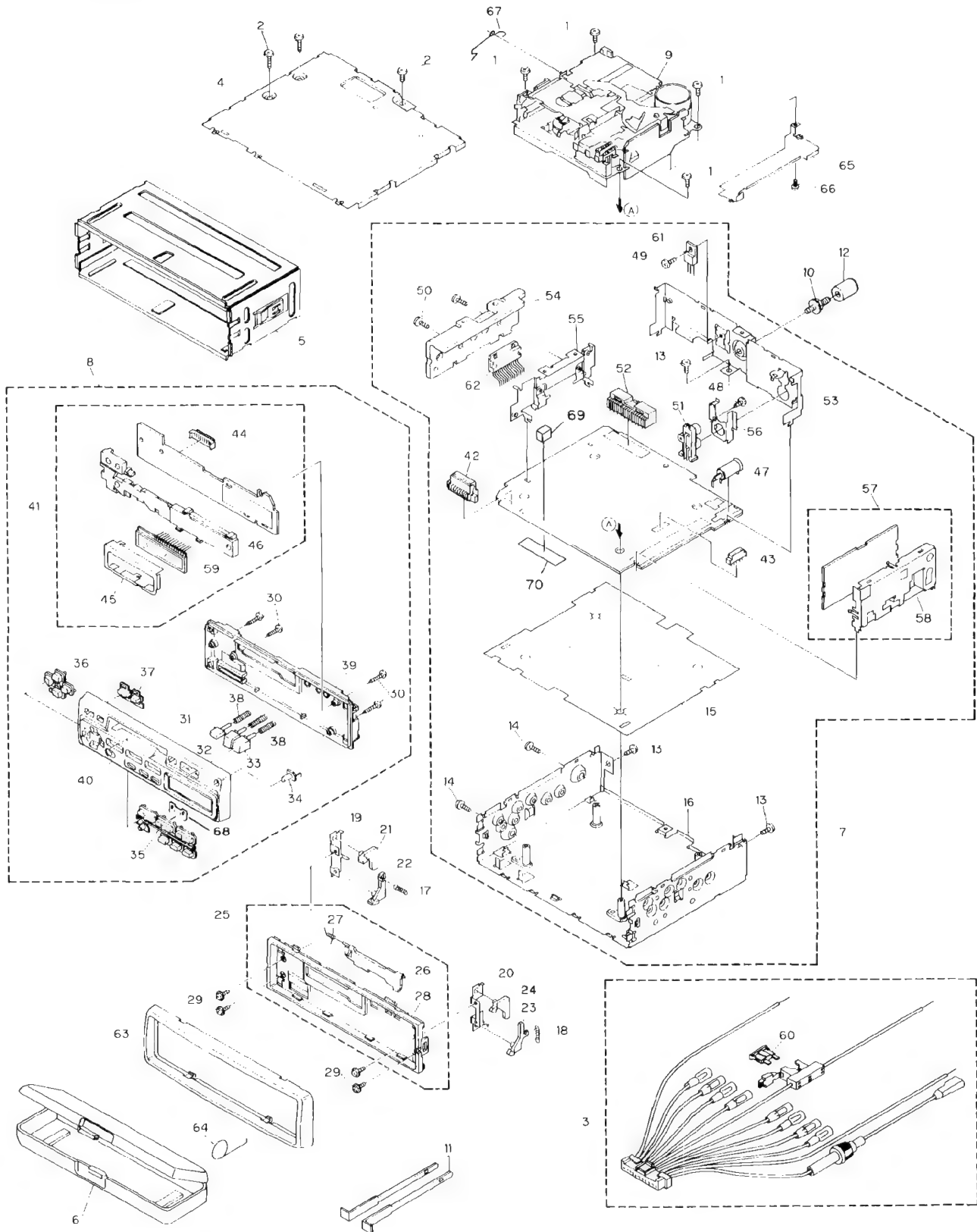


Fig. 11

NOTE:

● Parts marked by “*” are generally unavailable because they are not in our Master Spare Parts List.

● **Parts List(KEH-1400/X1M/UC)**

| Mark No. | Description | Part No. | Mark No. | Description | Part No. |
|----------|-------------------------|--------------|----------|---------------------|--------------|
| 1 | Screw | BSZ26P050FMC | 46 | Conductor | CNV4442 |
| 2 | Screw | BSZ30P100FMC | 47 | Antenna Jack(CN501) | CKX1006 |
| 3 | Cord Assy | CDE4951 | 48 | Screw | BPZ26P060FMC |
| 4 | Case | CNB2010 | 49 | Screw | BSZ26P060FMC |
| 5 | Holder | CNC5394 | 50 | Screw | BSZ26P080FMC |
| 6 | Detach Case | CNS3860 | 51 | Pin Jack(CN851) | CKB1028 |
| 7 | Tuner Amp Assy | CWM4583 | 52 | Plug(CN601) | CKM1226 |
| 8 | Detach Grille Assy | CXA8545 | 53 | Panel | CNB2014 |
| 9 | Cassette Mechanism Unit | EXK3435 | 54 | Heat Sink | CNC6217 |
| 10 | Screw | CBA1304 | 55 | Holder | CNC6372 |
| 11 | Handle | CNC5395 | 56 | Holder | CNC6531 |
| 12 | Bush | CNV3930 | 57 | FM/AM Tuner Unit | CWE1417 |
| 13 | Screw | BSZ30P060FMC | 58 | Holder | CNC6555 |
| 14 | Screw | BSZ30P100FMC | 59 | LCD | CAW1377 |
| 15 | Insulator | CNM4625 | 60 | Auto Fuse(7.5A) | CEK1135 |
| 16 | Chassis Unit | CXA8558 | 61 | Transistor(Q959) | 2SD2395 |
| 17 | Spring | CBH1834 | 62 | IC(IC551) | HA13150A |
| 18 | Spring | CBH1835 | 63 | Panel | CNS3862 |
| 19 | Bracket | CNC6135 | 64 | Spring | CBH1650 |
| 20 | Bracket | CNC6136 | 65 | Cover | ENC1452 |
| 21 | Arm | CNV4358 | 66 | Screw | BSZ23P050FMC |
| 22 | Arm | CNV4359 | 67 | Spring | EBH1585 |
| 23 | Arm | CNV4437 | 68 | ..... |  |
| 24 | Arm | CNV4676 | 69 | Spacer | CNM4919 |
| 25 | Panel Unit | CXA8605 | 70 | Spacer | CNM4921 |
| 26 | Door | CAT1762 | | | |
| 27 | Spring | CBH1838 | | | |
| * 28 | Panel | CNS3768 | | | |
| 29 | Screw | PMS20P030FZK | | | |
| 30 | Screw | BPZ20P120FZK | | | |
| 31 | Button(△) | CAC4613 | | | |
| 32 | Button(◀) | CAC4614 | | | |
| 33 | Button(▶) | CAC4615 | | | |
| 34 | Button(⊕) | CAC4612 | | | |
| 35 | Button(1,2,3,4,5,6,S) | CAC4616 | | | |
| 36 | Button(◀,▶,+, -) | CAC4617 | | | |
| 37 | Button(TUNER,BAND) | CAC4714 | | | |
| 38 | Spring | CBH1836 | | | |
| 39 | Cover | CNS3822 | | | |
| 40 | Grille | CNS3832 | | | |
| 41 | Key Board Unit | CWM4585 | | | |
| 42 | Connector(CN902) | CKS2884 | | | |
| 43 | Connector(CN604) | CKS3362 | | | |
| 44 | Connector(CN901) | CKS2883 | | | |
| 45 | Holder | CNC6314 | | | |

KEH-1400,1450,1311,1100,1150,1300,1300SDK

- The KEH-1300/X1M/EW, KEH-1300SDK/X1M/GR, KEH-1400/X1M/IT, KEH-1450/X1M/ES, KEH-1311/X1M/UC, KEH-1100/X1M/UC and KEH-1150/X1M/ES Parts Lists enumerate the parts which differ from those enumerated in the KEH-1400/X1M/UC Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly. The KEH-1400/X1M/UC Parts List is given on page 31.

| Mark No. | Description | 1400/X1M/UC | 1450/X1M/ES | 1311/X1M/UC | 1100/X1M/UC | 1150/X1M/ES |
|----------|-------------------------|-------------|-------------|-------------|-------------|-------------|
| | | Part No. | Part No. | Part No. | Part No. | Part No. |
| 3 | Cord Assy | CDE4951 | CDE4951 | CDE4951 | CDE4908 | CDE4908 |
| 7 | Tuner Amp Assy | CWM4583 | CWM4592 | CWM4586 | CWM4589 | CWM4595 |
| 8 | Detach Grille Assy | CXA8545 | CXA8551 | CXA8547 | CXA8549 | CXA8553 |
| 9 | Cassette Mechanism Unit | EXK3435 | EXK3435 | EXK3435 | EXK3415 | EXK3415 |
| 25 | Panel Unit | CXA8605 | CXA8605 | CXA8605 | CXA8845 | CXA8845 |
| 40 | Grille | CNS3832 | CNS3834 | CNS3833 | CNS3835 | CNS3836 |
| 41 | Key Board Unit | CWM4585 | CWM4594 | CWM4588 | CWM4591 | CWM4597 |
| 60 | Auto Fuse(7.5A) | CEK1135 | CEK1135 | CEK1135 | ..... | ..... |
| 62 | IC(IC551) | HA13150A | HA13150A | HA13150A | PA3029B | PA3029B |

| Mark No. | Description | 1400/X1M/UC | 1300/X1M/EW | 1400/X1M/IT | 1300SDK/X1M/GR |
|----------|-----------------------|-------------|-------------|-------------|----------------|
| | | Part No. | Part No. | Part No. | Part No. |
| 3 | Cord Assy | CDE4951 | CDE4950 | CDE4950 | CDE4950 |
| 7 | Tuner Amp Assy | CWM4583 | CWM4577 | CWM4577 | CWM4580 |
| 8 | Detach Grille Assy | CXA8545 | CXA8538 | CXA8540 | CXA8542 |
| 16 | Chassis Unit | CXA8558 | CXA8558 | CXA8558 | CXA8662 |
| 25 | Panel Unit | CXA8605 | CXA8837 | CXA8838 | CXA8837 |
| 31 | Button(△) | CAC4613 | CAC4531 | CAC4613 | CAC4531 |
| 32 | Button(◀▶) | CAC4614 | CAC4532 | CAC4614 | CAC4532 |
| 33 | Button(▶▶) | CAC4615 | CAC4533 | CAC4615 | CAC4533 |
| 34 | Button(△) | CAC4612 | CAC4539 | CAC4612 | CAC4539 |
| 35 | Button(1,2,3,4,5,6,S) | CAC4616 | CAC4591 | CAC4616 | CAC4591 |
| 36 | Button(◀,▶,+,,-) | CAC4617 | CAC4592 | CAC4617 | CAC459 |
| 37 | Button(TUNER,BAND) | CAC4714 | CAC4593 | CAC4714 | CAC4593 |
| 39 | Cover | CNS3822 | CNS3767 | CNS3822 | CNS3767 |
| 40 | Grille | CNS3832 | CNS3830 | CNS3831 | CNS3821 |
| 41 | Key Board Unit | CWM4585 | CWM4579 | CWM4711 | CWM4582 |
| 57 | FM/AM Tuner Unit | CWE1417 | CWE1416 | CWE1416 | CWE1416 |
| 63 | Panel | CNS3862 | ..... | ..... | ..... |
| 64 | Spring | CBH1650 | ..... | ..... | ..... |

13.2 CASSETTE MECHANISM UNIT

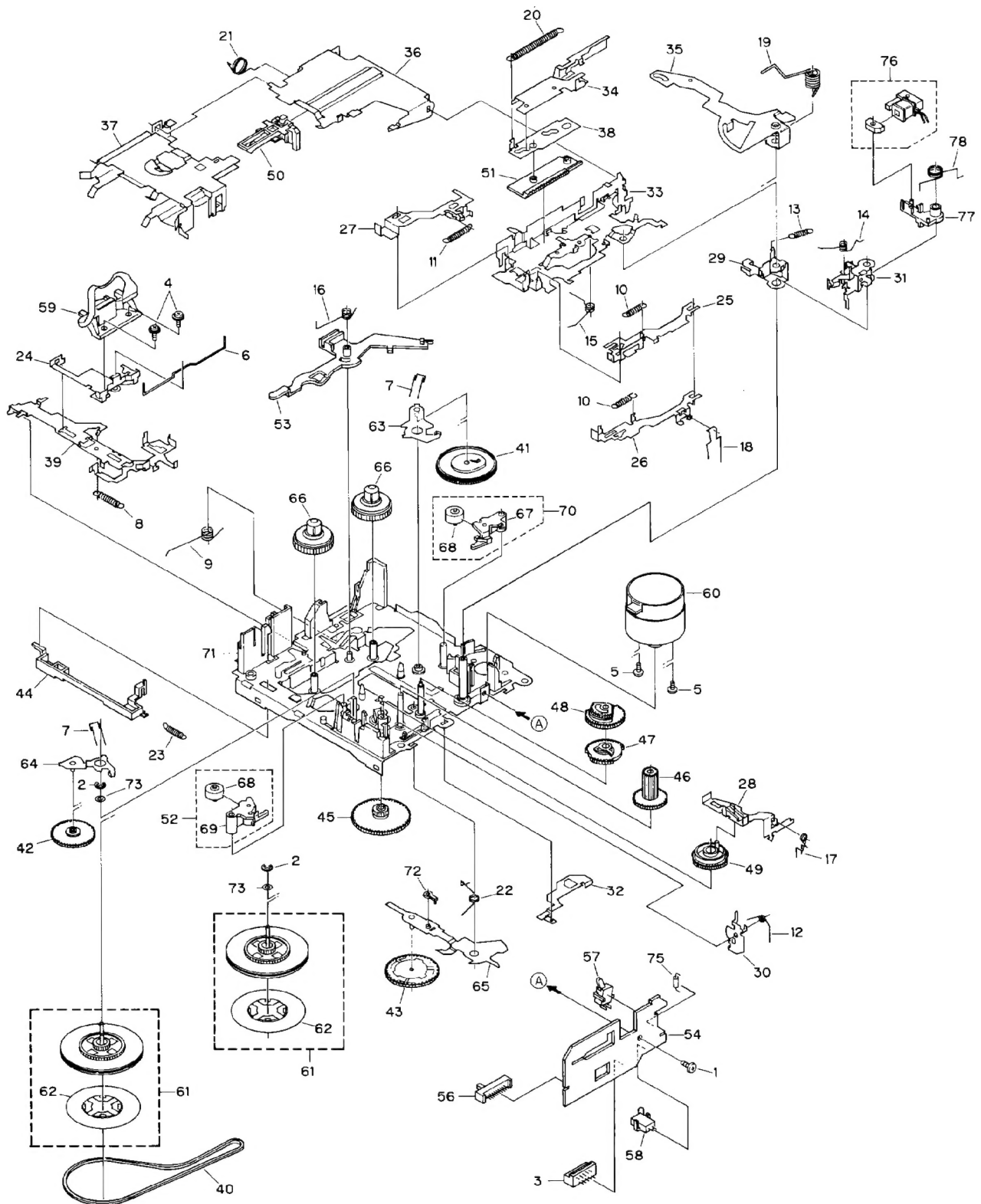


Fig. 12

● Parts List

| Mark No. | Description | Part No. | Mark No. | Description | Part No. |
|----------|----------------|--------------|----------|---|-------------|
| 1 | Screw | BSZ23P050FMC | 46 | Gear | ENV1475 |
| 2 | Washer | CBG1003 | 47 | Gear | ENV1493 |
| 3 | Connector(CN1) | CKS2829 | 48 | Gear | ENV1477 |
| 4 | Screw(M2x5) | EBA1028 | 49 | Gear | ENV1478 |
| 5 | Screw(M2x2.5) | EBA1037 | 50 | Lever | ENV1480 |
| 6 | Spring | EBH1554 | 51 | Lever | ENV1487 |
| 7 | Spring | EBH1555 | 52 | Roller Unit | EXA1461 |
| 8 | Spring | EBH1556 | 53 | Arm | ENV1489 |
| 9 | Spring | EBH1557 | 54 | P.C.Board | ENP1148 |
| 10 | Spring | EBH1558 | 55 | ..... |  |
| 11 | Spring | EBH1559 | 56 | Switch(FWD/REV)(S3) | ESH1006 |
| 12 | Spring | EBH1560 | 57 | Switch(Load)(S1) | ESN1016 |
| 13 | Spring | EBH1561 | 58 | Switch(Mute)(S2) | ESN1017 |
| 14 | Spring | EBH1562 | 59 | Head Assy(HD1) | EXA1443 |
| 15 | Spring | EBH1563 | 60 | Motor Unit(M1) | EXA1444 |
| 16 | Spring | EBH1564 | 61 | Flywheel Unit | EXA1468 |
| 17 | Spring | EBH1565 | 62 | Plate | ENC1423 |
| 18 | Spring | EBH1566 | 63 | Arm Unit | EXA1447 |
| 19 | Spring | EBH1567 | 64 | Arm Unit | EXA1448 |
| 20 | Spring | EBH1568 | 65 | Arm Unit | EXA1449 |
| 21 | Spring | EBH1569 | 66 | Reel Unit | EXA1450 |
| 22 | Spring | EBH1571 | 67 | Pinch Holder | ENV1466 |
| 23 | Spring | EBH1579 | 68 | Pinch Roller | ENV1488 |
| 24 | Head Base | ENC1428 | 69 | Pinch Holder | ENV1467 |
| 25 | Lever | ENC1429 | 70 | Roller Unit | EXA1460 |
| 26 | Lever | ENC1430 | 71 | Chassis Unit | EXA1465 |
| 27 | Lever | ENC1431 | 72 | Service Arm | EXX1048 |
| 28 | Lever | ENC1432 | 73 | Washer | HBF-179 |
| 29 | Arm | ENC1433 | 74 | ..... |  |
| 30 | Arm | ENC1434 | 75 | Diode(D1) | 1SR-35-100A |
| 31 | Arm | ENC1435 | | (Except for KEH-1100/X1M/UC, 1150/X1M/ES) | |
| 32 | Arm | ENC1451 | 76 | Solenoid(SO1) | EXP1012 |
| 33 | Bracket | ENC1437 | | (Except for KEH-1100/X1M/UC, 1150/X1M/ES) | |
| 34 | Lever | ENC1438 | 77 | Arm | ENV1491 |
| 35 | Arm | ENC1439 | | (Except for KEH-1100/X1M/UC, 1150/X1M/ES) | |
| 36 | Frame | ENC1440 | 78 | Spring | EBH1582 |
| 37 | Holder | ENC1441 | | (Except for KEH-1100/X1M/UC, 1150/X1M/ES) | |
| 38 | Lever | ENC1446 | | | |
| 39 | Lever | ENC1454 | | | |
| 40 | Belt | ENT1027 | | | |
| 41 | Gear | ENV1469 | | | |
| 42 | Gear | ENV1470 | | | |
| 43 | Gear | ENV1471 | | | |
| 44 | Lever | ENV1472 | | | |
| 45 | Gear | ENV1474 | | | |

14. PACKING METHOD

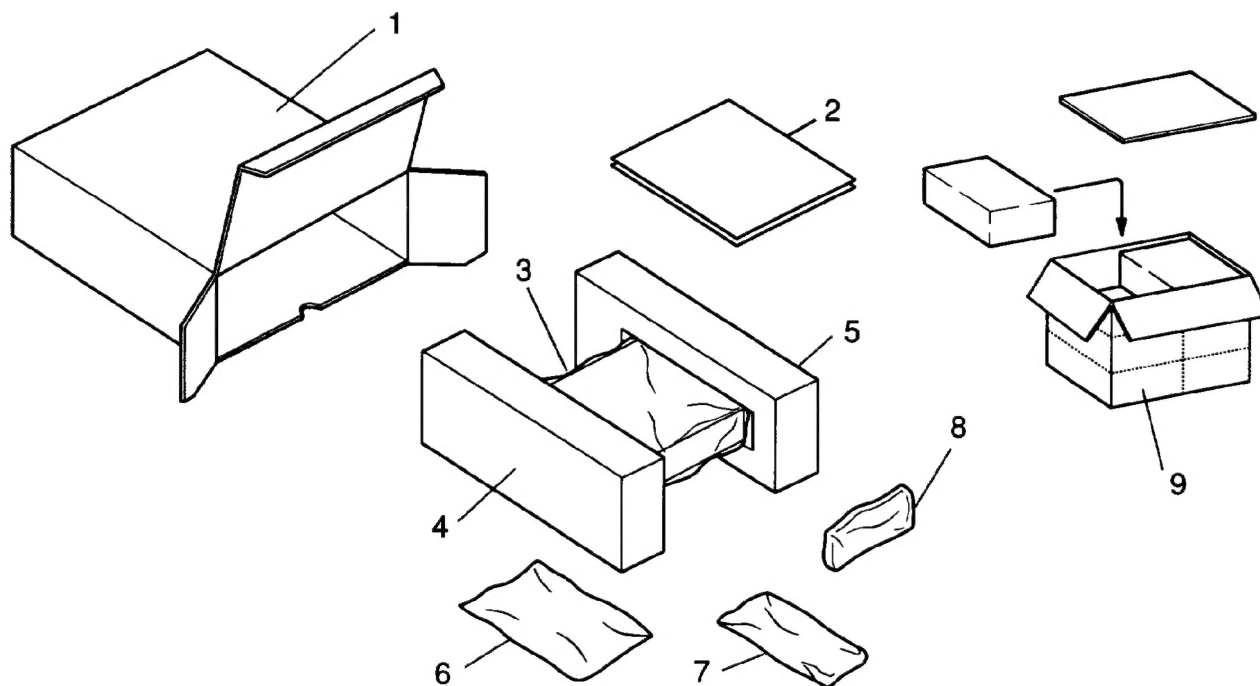


Fig. 13

● Parts List

| Mark No. | Description | KEH-1400/X1M/UC Part No. | KEH-1450/X1M/ES Part No. | KEH-1311/X1M/UC Part No. | KEH-1100/X1M/UC Part No. | KEH-1150/X1M/ES Part No. |
|----------|------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| 1 | Carton | CHG2907 | CHG2911 | CHG2915 | CHG2927 | CHG2931 |
| 2 | Owner's Manual | CRD1968 | CRD1969 | CRD1968 | CRD1968 | CRD1969 |
| 3 | Polyethylene Bag | CEG1173 | CEG-162 | CEG1173 | CEG1173 | CEG-162 |
| 4 | Protector(L) | CHP1607 | CHP1607 | CHP1607 | CHP1607 | CHP1607 |
| 5 | Protector(R) | CHP1606 | CHP1606 | CHP1606 | CHP1606 | CHP1606 |
| 6 | Accessory Assy | CEA2002 | CEA2002 | CEA2002 | CEA2002 | CEA2002 |
| 7 | Cord Assy | CDE4951 | CDE4951 | CDE4951 | CDE4908 | CDE4908 |
| 8 | Detach Case | CNS3860 | CNS3860 | CNS3860 | CNS3860 | CNS3860 |
| 9 | Contain Box | CHL2907 | CHL2911 | CHL2915 | CHL2927 | CHL2931 |

| Mark No. | Description | KEH-1300/X1M/EW Part No. | KEH-1400/X1M/IT Part No. | KEH-1300SDK/X1M/GR Part No. |
|----------|------------------|-----------------------------|-----------------------------|--------------------------------|
| 1 | Carton | CHG2895 | CHG2903 | CHG2899 |
| 2-1 | Owner's Manual | CRD1965 | ..... | CRD1967 |
| 2-2 | Owner's Manual | CRD1966 | CRD1966 | ..... |
| 2-3 | Warranty Card | CRY1087 | CRY1087 | CRY1087 |
| * 2-4 | Passport | ..... | ..... | CRY1013 |
| 3 | Polyethylene Bag | CEG-162 | CEG-162 | CEG-162 |
| 4 | Protector(L) | CHP1607 | CHP1607 | CHP1607 |
| 5 | Protector(R) | CHP1606 | CHP1606 | CHP1606 |
| 6 | Accessory Assy | CEA1917 | CEA1917 | CEA1917 |
| 7 | Cord Assy | CDE4950 | CDE4950 | CDE4950 |
| 8 | Detach Case | CNS3860 | CNS3860 | CNS3860 |
| 9 | Contain Box | CHL2895 | CHL2903 | CHL2899 |

● **Owner's Manual**

| Part No. | Model | Language |
|----------|---|-------------------------------|
| CRD1968 | KEH-1400/X1M/UC KEH-1311/X1M/UC KEH-1100/X1M/UC | English,French,Spanish |
| CRD1969 | KEH-1450/X1M/ES KEH-1150/X1M/ES | English,French,Spanish,Arabic |
| CRD1965 | KEH-1300/X1M/EW | English,Spanish,German,French |
| CRD1966 | KEH-1300/X1M/EW KEH-1400/X1M/IT | Italian,Dutch |
| CRD1967 | KEH-1300SDK/X1M/GR | German,French |

● **Accessory Assy**

Accessory Assy CEA1917

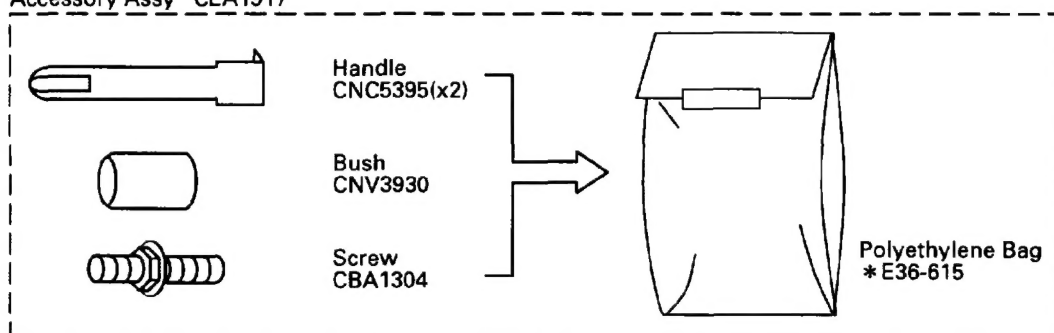


Fig. 14

Accessory Assy CEA2002

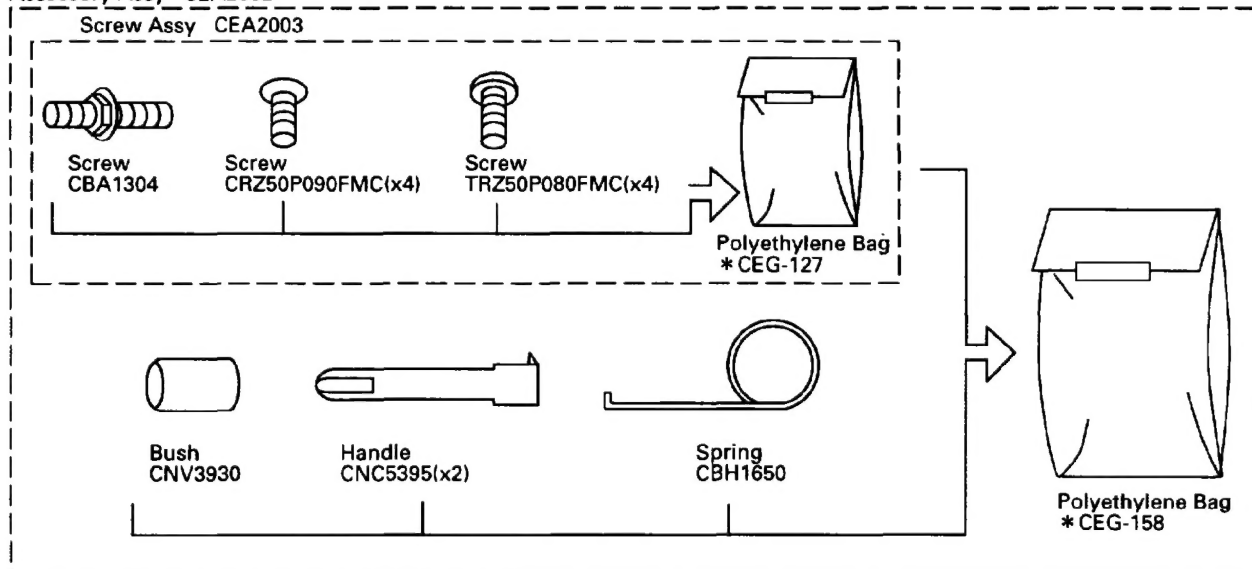


Fig. 15